

AMENDMENTS TO THE DRAWINGS:

Subject to the approval of the Examiner, it is respectfully requested that Fig. 1 be amended to add reference numeral 66. The proposed change is supported by the originally-filed specification and is indicated in red on the attached copy of the originally-filed drawing. Also enclosed is a full set of replacement drawings (Figs. 1-5) incorporating the requested change.

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REMARKS

Applicants submit this Amendment After Final, together with a three-month Petition for Extension of Time and a Notice of Appeal, in reply to the Final Office Action mailed April 21, 2003.

In this Amendment After Final, Applicants amend the specification, amend the drawings, cancel claims 10 and 11, without prejudice or disclaimer, amend claims 1, 2, 4, and 5, and add new claims 15 and 16.

Before entry of this Amendment, claims 1-14 were pending in this application. After entry of this Amendment, claims 1-9 and 12-16 are pending in this application.

The originally-filed specification, claims, abstract, and drawings fully support new claims 15 and 16 and the amendments to the specification and to claims 1, 2, 4, and 5. No new matter was introduced.

In the Office Action, the Examiner stated that four references from the Information Disclosure Statement filed on January 30, 2003, failed to comply with 37 C.F.R. 1.98 (a)(2); rejected claims 2 and 5 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,076,205 to Vowles et al. ("Vowles"); rejected claims 1 and 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,352,593 to Brors et al. ("Brors") in view of U.S. Patent No. 6,403,925 to Johnsgard et al. ("Johnsgard"); rejected claims 3/1 and 3/2 under 35 U.S.C. § 103(a) as being unpatentable over Brors and Johnsgard or Vowles as applied; rejected claim 4 as being unpatentable over Brors and Johnsgard as applied and further in view of U.S. Patent No. 5,624,499 to Mizuno et al. ("Mizuno"); rejected claim 6/1 and 7/1 under 35 U.S.C. § 103(a) as being unpatentable over Brors and Johnsgard as applied and further in view of

U.S. Patent No. 4,952,273 to Popov ("Popov") and U.S. Patent No. 5,830,310 to Doi ("Doi"); rejected claims 6/2 and 7/2 under 35 U.S.C. § 103(a) as being unpatentable over Vowles as applied and further in view of Popov and Doi; rejected claims 10 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Vowles as applied and further in view of U.S. Patent No. 5,512,320 to Turner et al. ("Turner"); and rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Vowles as applied and further in view of U.S. Patent No. 5,041,719 to Harris et al. ("Harris") and U.S. Patent No. 4,952,299 to Chrisos et al. ("Chrisos").

Applicants respectfully traverse the Examiner's rejections.

Information Disclosure Statement

Applicants thank Examiner for the teleconference of May 29, 2003, with the undersigned. Because the four references were in-fact filed on January 30, 2003, Examiner agreed to consider the four references. Applicants thank Examiner for initialing the new PTO Form 1449, which lists these four references. A copy of the new PTO Form 1449 has been placed in the file.

35 U.S.C. § 102(b) Rejection

Applicants respectfully request the Examiner to withdraw the claim rejection based on Vowles.

For anticipation under 35 U.S.C. § 102, the reference must teach every aspect of the claimed invention either explicitly or implicitly. See M.P.E.P. 706.02. As acknowledged by the Examiner, Vowles does not disclose all of the recited elements of amended claim 2, including "a third processing chamber having a cooler for cooling the object to be processed,". See Office Action, paragraph 41.

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Accordingly, Applicants respectfully request that the rejection of claim 2—and claim 5 which depends therefrom—be withdrawn.

35 U.S.C. § 103(a) Rejections

To establish a prima facie case of obviousness under 35 U.S.C. § 103(a) using multiple references, each of three requirements must be met. First, the references, when combined, must teach or suggest all the claim limitations. M.P.E.P. 2143.03. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Id. Third, there must be a reasonable expectation of success that the proposed combination will work for the intended purpose. Id. Moreover, the second and third requirements “must both be found in the prior art, not in applicant’s disclosure.” Id.

Amended Independent Claim 1

Applicants respectfully submit that amended claim 1 is patentable for at least two reasons. First, the prior art references, when combined, fail to teach or suggest all the claim limitations. Id. Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Id.

Applicants urge that Johnsgard, Brors, and the other art of record, taken alone or in any proper combination, fail to disclose all of the recited elements of claim 1, as amended, including “[a] processing apparatus comprising . . . [a] shielding plate [that] prevent[s] a heat stored in the transparent window during a former heating process from being transferred from the transparent window to the object.”

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The Examiner states:

“Brors et al. is cited for the configuration of structures, specifically, a window with a shield to obstruct a heater. Johnsgard et al. is cited for teaching making a shield insertable and extractable. Examiner recognizes that Brors et al. fail to teach the shield as insertable and retractable and that Johnsgard et al. fails to teach all of the structures recited in Applicant’s claims. This is why the two references are combined and not used individually.”

Final Office Action, paragraph 53. Applicants respectfully disagree and submit that neither Johnsgard nor Brors teaches or suggests a shielding plate that prevents heat transfer from the transparent window to the object, as recited in amended claim 1.

The Examiner cites reference numeral 122 of Brors for the asserted disclosure of a shielding plate. The shield plate 122 of Brors, however, cannot be construed as the shielding plate of amended claim 1. The shielding plates 122 of Brors act as thermally-conducting plates that “diffuse heat energy emitted from heating structures 400 to allow a more uniform distribution of heat energy to be provided to wafers 44.” Brors, col. 10, lines 64-67. Unlike the thermally-insulating shield plate recited in claim 1, the shielding plate 122 of Brors conducts thermal energy to the object.

Furthermore, Johnsgard does not overcome the above-noted deficiencies of Brors. The Examiner appears to agree with Applicants position that nothing in Johnsgard teaches a shielding plate, as recited in claim 1. Final Office Action, paragraph 54 (stating, “Johnsgard is relied upon solely for teaching insertion and extraction of a shield for periods of use and non use.”)

Nevertheless, Applicants verified Examiner’s assertion that nothing in Johnsgard could be construed as a shielding plate that prevents heat transfer from the transparent window to the object. Although Johnsgard discloses, “When a window is not used, a nontransmissive plate

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may be used to cover the viewing port for improved insulation,” Johnsgard, col. 9, lines 65-67, Johnsgard does not teach a shielding plate as recited in amended claim 1. Applicants respectfully submit that Johnsgard does not teach or suggest a transparent window, as recited in claim 1, let alone a shielding plate that prevents heat transfer from such window.

Furthermore, one of ordinary skill in the art would not be motivated to combine Brors with Johnsgard, as the Examiner has done.

The Examiner states:

“With respect to Applicant’s argument that one of ordinary skill in the art would not be motivated to combine the Brors et al. and Johnsgard et al. based on different intended uses of the shielding structures, Examiner again points out that Johnsgard is relied upon solely for teaching insertion and extraction of a shield for periods of use and non use.”

Final Office Action, paragraph 54. Applicants respectfully request that the Examiner explain some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Brors or to combine Brors and Johnsgard, as the Examiner has done. M.P.E.P. 2143. Furthermore, Applicants submit that there are only three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. Id., citing In re Rouffet, 149 F.3d 1350, 1357 (Fed. Cir. 1998). Nevertheless, Applicants provide reasons below why there is no suggestion or motivation to combine Brors with Johnsgard, as the Examiner has done.

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See M.P.E.P. 2143.02, citing In re Gordon, 733 F.2d 900 (Fed. Cir.

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1984). Because the shielding plates 122 of Brors are designed to conduct thermal energy, one skilled in the art would not attempt to combine the nontransmissive plate of Johnsgard with Brors. To do so would render Brors unsatisfactory for its purpose of diffusing heat energy to allow a more uniform distribution of heat. Brors, col. 10, lines 64-67. Additionally, the shield plate 122 of Brors is bolted and fixed to sidewalls 100a by a plurality of retaining clamps 124. Brors, col. 10, lines 50-63. Applicants see no reason for modifying Brors to make shield plate 122 insertable and retractable, as the Examiner has done.

Further, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *Id.*, citing *In re Ratti*, 270 F.2d 810 (C.C.P.A. 1959). Replacing the shield plates 122 of Brors with the nontransmissive plates of Johnsgard would prevent the plates from allowing a more uniform distribution of heat energy.

Accordingly, the rejection of claim 1, as amended, based on Brors and Johnsgad should be withdrawn.

Amended Independent Claim 2

Applicants submit that amended claim 2, which includes the recitations of former claims 2 and 11, is patentable over the art of record. Applicants respectfully submit that this is true on at least the ground that there is no suggestion or motivation, either in Vowles or Turner, or in the knowledge generally available to one of ordinary skill in the art, to combine Vowles and Turner in a manner resulting in the claimed invention. *See* M.P.E.P. 2143.03.

Turner discloses, “[a] method for depositing sequential thin films on glass substrates by single substrate deposition.” See Turner, abstract. In contrast, Vowles discloses, “[a] system for multichamber processing of semiconductor wafers providing flexibility in the nature of processing available in a multi processing facility.” See Vowles, abstract. Thus, Turner discloses a significantly different use than Vowles. As a result, one of ordinary skill in the art would not be motivated to combine Turner with Vowles.

Additionally, even if the “Modular Vapor Processor System” to Vowles was capable of being modified as the “Vacuum Processing Apparatus Having Improved Throughput” to Turner, the Examiner has failed to show any suggestion or motivation in the reference to do so. See M.P.E.P. 2143.01, citing In re Mills, 916 F.2d 680, 682 (Fed. Cir. 1990), and stating, “Although a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.’”

Applicants respectfully submit that amended claim 2 is patentable over the art of record, including Turner and Vowles and respectfully request that the Examiner withdraw her rejection of this claim.

Dependent Claims

Applicants submit that dependent claims 3-7, 12, and 13 are patentable over the cited references including Vowles, Turner, Brors, Johnsgard, and any other art of record. This is true whether such art is considered alone or in any proper combination, in particular due to the dependency of claims 3/2, 5, 6/2, and 7/2 from independent claim 2 and the dependency of claims 3/1, 4, 6/1, 7/1, 12, and 13 from independent claim 1. “Dependent claims are nonobvious

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under Section 103 if the independent claims from which they depend are nonobvious.” In re Fine, 837 F.2d 1071, 1076 (Fed. Cir. 1988).

New Claims

Also by this Amendment, Applicants add claims 15 and 16. Claim 15 inherently or explicitly includes the recitations of previously-filed claims 2 and 10. Additionally, claim 16 depends from claim 15 and further inherently or explicitly includes the recitations of previously-filed claim 5. For at least the same reasons discussed above, Applicants respectfully submit that these claims are also in condition for allowance.

Claim Scope

In discussing the specification, claims, abstract, and drawings in this Amendment, it is to be understood that Applicants are in no way intending to limit the scope of the claims to any exemplary embodiments described in the specification or abstract and/or shown in the drawings. Rather, Applicants believe that Applicants are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation, and applicable case law.

Summary

In summary, Applicants submit that none of the cited references, including Vowles, Turner, Brors, Johnsgard, or any other art of record, either alone or in any proper combination, teaches or suggests Applicants’ claimed invention.

Applicants respectfully request that this Amendment After Final under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-9 and 12-16 in condition for allowance. Applicants submit that the proposed addition of new claims 15 and 16 and the proposed amendments to the specification and claims 1, 2, 4, and 5 do not raise new issues or necessitate

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the undertaking of any additional search of the art by the Examiner, because all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment After Final should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the Final Office Action by the Examiner presented some new arguments as to the application of the art against Applicants' invention. It is respectfully submitted that the entering of this Amendment After Final would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

The Examiner is invited to call the undersigned at (202) 408-4157 if the Examiner deems that a telephone conversation would further the prosecution of the application.

In view of the foregoing amendments and remarks, Applicants submit that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this Amendment After Final, the Examiner's reconsideration and reexamination of this application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

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Respectfully submitted,

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Dated: October 21, 2003

By: 

Michael L. Woods
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Attachments: Replacement Drawing Sheets (4 pages, Figs. 1-5)
Annotated Drawing Sheet (1 page showing changes to Fig. 1)

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